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RESEARCH ARTICLE

New data on the taxonomy and distribution of subfamily Polycestinae (Coleoptera: Buprestidae) in Bulgaria

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Abstract

Data on the distribution of 13 species group taxa of subfamily Polycestinae in Bulgaria are presented. Taxonomic notes about two species, *Acmaeodera* (*Acmaeotethya*) *octodecimguttata* and *Acmaeodera* (*Acmaeotethya*) *degener*, which allow their differentiation, are also given.

Keywords

Buprestidae, Polycestinae, new data, taxonomy, Bulgaria

Introduction

The subfamily Polycestinae includes over 1250 worldwide species (Bellamy, 2008): 276 species in the Palaearctic region (Volkovitsh, 2021) and 19 species in Bulgaria (Sakalian, 2003).

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The aim of this note is to present unpublished data on the taxonomy and distribution of buprestids of subfamily Polycestinae in Bulgaria. The information about two of previously reported taxa is revised and corrected.

Material and Methods

The studied specimens were collected using traditional entomological methods: collecting on flowers and bushes with an entomological bag; through shaking of tree branches and crowns; collecting with soil traps, yellow tree traps, Malaise and pheromone traps; rearing of adults in laboratory conditions from infested parts of host plants.

The faunal information received from Dr. Manfred Niehuis is also mentioned. This information does not contain data about the number of specimens found for each species or subspecies, and for this reason, these taxa are listed below without specifying the number of the studies specimens.

The current status, synonyms and combinations concerning Bulgarian taxa and published after summarising publications of Sakalian (2003), Sakalian, Langourov (2007) and Volkovitsh et al. (2015) are reported according to Kubáň et al. (2016). The names of tribes and species and subspecies are listed in alphabetical order.

Bulgarian geographical regions are presented according to Guéorguiev et al. (1997).

The collections where the studied specimens are kept are listed in the text below. In this work, the following abbreviations are used: DD – collection of Danail Doychev; EM – collection of Enrico Migliaccio; p.c. – personal communication; VG – collection of Victor Gashtarov; VS – collection of Vladimir Sakalian.

Results and Discussion

Subfamily Polycestinae Lacordaire, 1857
Tribe Acmaeoderini Kerremans, 1893

***Acmaeodera (Acmaeodera) brevipes brevipes* Kiesenwetter, 1858**

Material: Sakar – Tundzha Region: E Cherepovo, 41°00′14″N, 26°10′11″E, 456 m a.s.l., 21.06.2012, 1 ex., leg. T. Lyubomirov (VS); Boboshevo – Simitli Valley: 7 km from Simitli, 25.04.2002, 1 ex., leg. E. Migliaccio (EM); 15 km N Kresna, 300-600 m a.s.l., 30.05.2003, leg. Buchbach & Steidel (Niehuis, p.c.); Sandanski – Petrich Valley: Kresna Gorge, 21.05.1997, 4 ex. on flowers of *Convolvulus* sp., leg. V.Gashtarov (VG); Kalimantsi Vill., 450-510 m a.s.l., 01-22.06.2002, soil traps, 30 ex., leg. D Chobanov; 2 Km S from Kamenitsa Vill., 170-240 m a.s.l., 10-11.05.2002, 2 ex., leg. E. Migliaccio; 31.05.-23.06.2002, tree traps, 248 ex., leg. M. Langourov; 23.06.-08.07.2002, tree traps, 8 ex., leg. D. Chobanov; Sveti Iliya Hill near Kalimantsi Vill., 450-510 m a.s.l., 22.06.-6.08.2002, soil traps, 1 ex., leg. D. Chobanov (EM).

***Acmaeodera* (*Acmaeodera*) *pilosellae pilosellae* (Bonelli, 1812)**

Material: Thracian Plain: S Zelenikovo, 42°22′50″N, 25°04′43″E, 290 m a.s.l., 15.05.-14.06.2018, 2 ex., leg. T. Teofilova (VS); Sandanski – Petrich Valley: 2 Km S from Kamenitsa Vill., 170-240 m a.s.l., 23.06.-08.08.2002, tree traps, 1 ex., leg. D. Chobanov; Sveti Iliya Hill near Kalimantsi Vill., 450-510 m a.s.l., 10-11.05.2002, 1 ex., leg. E. Migliaccio; 01-22.06.2002, soil traps, 1 ex., leg. M. Langourov; 22.06.-06.08.2002, soil traps, 1 ex., leg. D. Chobanov (EM).

***Acmaeodera* (*Acmaeotethya*) *octodecimguttata octodecimguttata* (Piller & Mitterpacher, 1783)**

octodecimguttata Piller & Mitterpacher, 1783: 68 (*Buprestis*).

degener Scopoli, 1763: 92 (*Elater*); Sakalian 2003: 21; Sakalian, Langourov 2007: 363: Volkovitsh et al. 2015: 472.

Material: Malashevska Mt.: Gorna Breznithsa, 30-31.07.2002, yellow traps, 1 ex, leg. E. Migliaccio (EM).

Remarks: According to Kubáň et al. (2016), "*Acmaeodera* (*Acmaeotethya*) *octodecimguttata octodecimguttata* (Piller & Mitterpacher, 1783), is resurrected from synonymy with *Acmaeodera (Acmaeotethya) degener degener* (Scopoli, 1763); based on the original descriptions and on the study of the extensive material of both species". Ing.Vit Kubáň suggested revising the material from the collection of Dr .Vladimir Sakalian. After revising the material together, they established that the reports of *A. degener degener* summarised and published by Sakalian (2003), Sakalian, Langourov (2007) and Volkovits et al. (2015) are related to *A. octodecimguttata octodecimguttata*. The specimen reported above also belongs to this subspecies. According to a personal communication of Dr. Mark G. Volkovitsh, the reliable characters for separation of these taxa is the additional subhumeral spot on the elytra of *A. octodecimguttata* indicated by arrow in Fig. 1. They also differ by the shape of male genitalia. According to his communication, the taxonomic status of these forms is still uncertain. It cannot be excluded that these two forms actually represent ecological races, a phenomenon that is rather common among Buprestidae.

***Acmaeodera* (*Acmaeotethya*) *crinita crinita* Gory, 1840**

Material: Thracian Plain: S Krichim, 42°01′25″N, 24°28′05″E, 380 m a.s.l., 16.05.2013, 1 ex.; Rila Mts.: E Rila, 42°07′49″N, 23°08′57″E, 618 m a.s.l., 28.06.2016, 1 ex., leg. T. Ljubomirov (VS); Boboshevo – Simitli Valley: 7 km from Simitli, 18.07.2001, 2 ex.; Malashevska Planina Mt.: Manastir Gorna Breznitsa, 550 m a.s.l., 01.08.2002, 1 ex., leg. E. Migliaccio (EM); W Gorna Breznitsa Vill., 41°44′20″N, 23°06′04″E, 755 m a.s.l., 10.07.2013, 1 ex., leg. T. Lyubomirov (VS); Sandanski – Petrich Valley: Kalimantsi Vill., 12.05.2002, 2 ex., leg. E. Migliaccio (EM); Ilindentsi Vill., 450 m a.s.l., 31.05.2003, leg. Buchbach & Steidel; South Black Sea Coast: Veselie, 16.05.2002, leg. Schmitt; Sozopol, 01-08.07.2004; Primorsko, 02.07.2004, leg. W. Ziegler (Niehuis, p.c.).

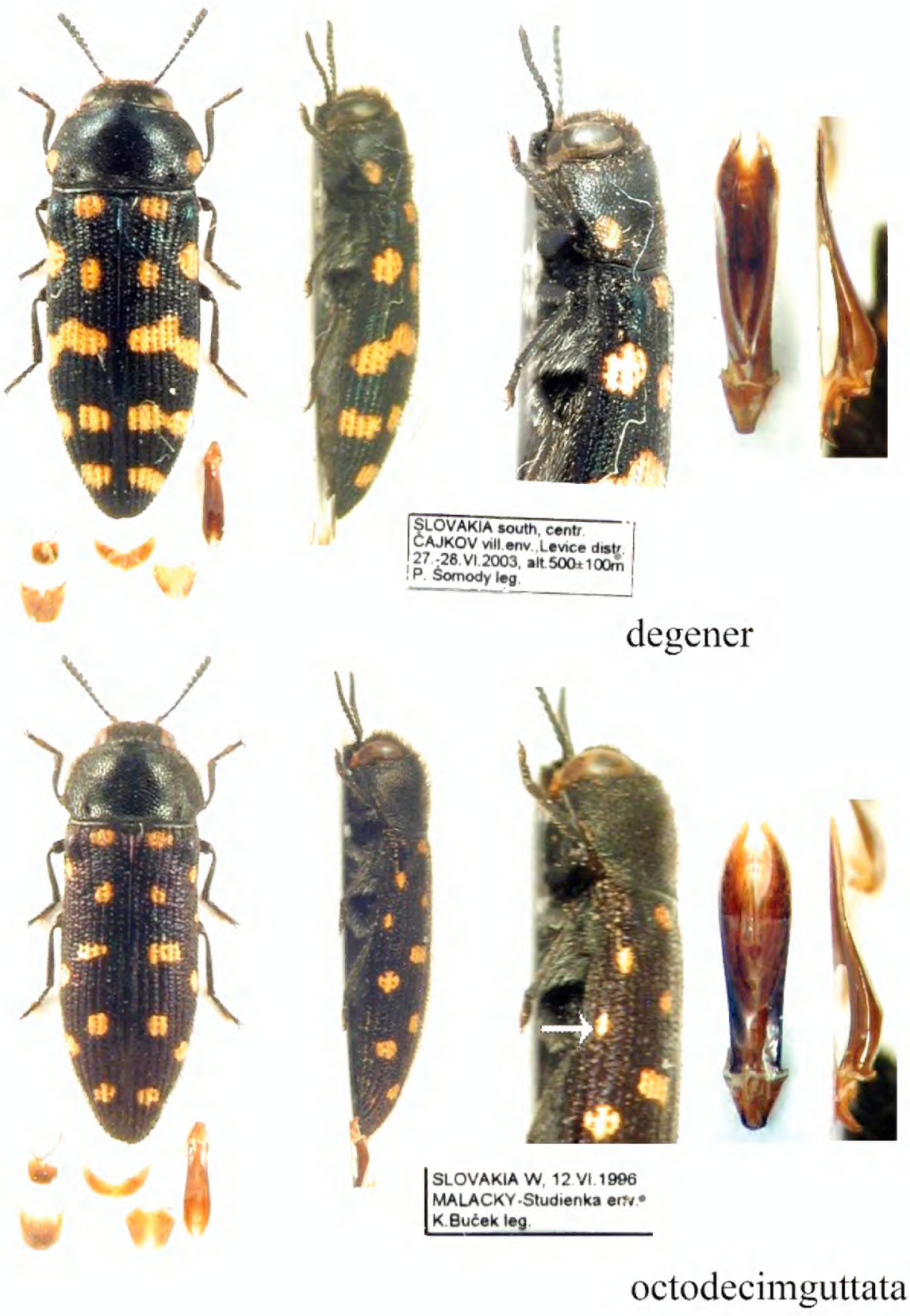

Figure 1. Specimens of *Acmaeodera degener* and *Acmaeodera octodecimguttata* courtesy of Dr. Eduard Jendek (Bratislava, Slovakia), and photos – courtesy of Mark G. Volkovitsh (St. Petersburg, Russia)

***Acmaeodera* (*Acmaeotethya*) *ottomana ottomana* (Frivaldszky, 1837)**

Material: Sandanski – Petrich Valley: East Mikrevo, 530 m a.s.l., 30.06.-06.07.2006, pheromone traps for Scolytidae, leg. D. Doychev (DD); W Kresna, 600 m a.s.l., 27.05.2003, leg. Buchbach & Steidel; Petrich, 25.04.2004, leg. P. Kylies (Niehuis, p.c.); Sveti Iliya Hill near Kalimantsi Vill., 450-510 m a.s.l., 10-11.05.2002, 2 ex.; Chuypetel North from Katuntsi Vill., 350 m a.s.l., 12.05.2002, 1 ex., leg. E. Migliaccio (EM); East

Rhodope Mts.: Kondolovo vill., 14.05.2002; Black Sea Coast: Primorsko, 16.05.2002, leg. Schmitt (Niehuis, p.c.); Ropotamo protected area near Sozopol, 26.06.2003, 1 ex., leg. E. Migliaccio (EM).

***Acmaeodera* (*Palaeotethya*) *bipunctata bipunctata* (Olivier, 1790)**

Material: Osogovska Planina Mt: E Vetren Vill., 42°04′14″N, 22°46′38″E, 1260 m a.s.l., 28.06.2016, 4 ex.; Malashevska Planina Mt.: Tsaparevo Vill., 41°37′N, 25°04′E, 950 m a.s.l., 27.06.2008, 1 ex., leg. T. Ljubomirov (VS).

***Acmaeoderella* (*Acmaeoderella*) *circassica* (Reitter, 1890)**

Material: Boboshevo – Simitli Valley: 7 km from Simitli, 25.04.2002, 1 ex., leg. E. Migliaccio (EM); Sandanski – Petrich Valley: W Kresna, 600 m a.s.l., 27.05.2003, leg. Buchbach & Steidel (Niehuis, p.c.).

***Acmaeoderella* (*Acmaeoderella*) *coarctata seminata* (Abeille de Perrin, 1895)**

Material: Sandanski – Petrich Valley: Sveti Iliya Hill near Kalimantsi Vill., 450-510 m a.s.l., 22.06.-06.08.2002, soil traps, 1 ex., leg. D. Chobanov (EM); North Black Sea Coast: Albena, 28.06.2004, leg. W. Ziegler (Niehuis, p.c.).

***Acmaeoderella* (*Carininota*) *flavofasciata flavofascia*ta (Piller & Mitterpacher, 1783)**

Material: East Danubian Plain: E Vetren Vill., 44°07′23″N, 27°03′32″E, 27 m a.s.l., 25.07.2012, 4 ex.; West Predbalkan: SW Mitrovtsi Vill., 43°25′45″N, 22°54′35″E, 541 m a.s.l., 12.08.2012, 1 ex.;

SW Banitsa vill., 43°19′51″N, 23°40′09″E, 426 m a.s.l., 1 ex., 20.07.2018; Central Stara Planina Mts: N Idilevo Vill., 43°02′29″N, 25°15′06″E, 356 m a.s.l., 25.07.2016, 1 ex.; Tvurdishka planina Mt., 42°45′40″N, 25°58′03″E, 1054 m a.s.l., 23.07.2012, 1 ex.; Lozenska Planina Mt.: N Pasarel Vill., 42°33′12″N, 23°29′34″E, 839 m a.s.l., 04.07.2013, 1 ex., leg. T. Ljubomirov (VS); Osogovska Planina Mt.: Lisets Mt., 04.08.2004, 2 ex., leg. D. Doychev (DD); Boboshevo – Simitli Valley: 7 Km from Simitli, 19.08.2002, 1 ex. leg. Migliaccio (EM); Malashevska Planina Mt.: Gorna Breznitsa Vill., 600-1000 m a.s.l., 14.06.2002, 1 ex., leg. B. Gueorguiev; W Gorna Breznitsa Vill., 41°44′24″N, 23°06′01″E, 762 m a.s.l., 10.07.2013, 1 ex., leg. T. Ljubomirov (VS); Manastir Gorna Breznitsa, 550 m a.s.l., 30-31.07.2002, yellow traps, 25 ex., leg. E. Migliaccio; Gorna Breznitsa Vill., 500 m a.s.l., 21.08.2002, 1 ex., leg. S. Lazarov (EM); Sandanski – Petrich Valley: 3 km W Kresna, 800 m a.s.l., 28.05.2003, leg. Buchbach & Steidel (Niehuis, p.c.); Kresna Gorge: Peyo Yavorov Railway Station, 19.07.2002, 1 ex., leg. E. Migliaccio (EM); Igralishte Vill., 41°32′02″ N 27°07′15″ E, 583 m a.s.l., 03.07.2012, 1 ex.; West Rhodope Mts.: SW Yavrovo Vill., 41°43′58″N, 24°46′27″E, 1042 m a.s.l., 30.06.2016, 2 ex.; E Fabrika Vill., 41°26′26″N, 25 01′12″E, 659 m a.s.l., 06.08.2018, 1 ex.; Rila Mts.: Belitsa, 42°00′17″N, 23°31′26″E, 1147 m a.s.l., 14.07.2016, 1 ex., leg. T. Ljubomirov (VS); North Black Sea Coast: Albena, 28.06.2004, leg. W. Ziegler (Niehuis, p.c.); SW Balchik, 43°23′41″N, 28°06′20″E, 219 m a.s.l., 12.06.2018, 2 ex., leg. T. Ljubomirov

(VS); Road Varna-Kamcia, 04-07.07.1972, leg. J. Bročík; South Black Sea Coast: Dyuni south of Burgas, 27.06.2004; Primorsko, 01.07.2004, leg. W. Ziegler (Niehuis, p.c.).

***Acmaeoderella* (*Carininota*) *mimonti mimonti* (Boieldieu, 1865)**

Material: East Danubian Plain: E Vetren Vill., 44°07′23″N, 27°03′40″E, 30 m a.s.l., 25.07.2012, 1 ex.; Thracian Plain: Near Stara Zagora 20.06.-20.07.2004, yellow traps, leg. G. Murzov; Sakar – Tundzha Region: W Izvorovo Vill., 41°57′05″N, 26°05′53″E, 212 m a.s.l., 19.06.2012, 3 ex.; S Pustrogor Vill., 41°50′12″N, 26°11′32″E, 129 m a.s.l., 20.06.2012, 3 ex., leg. T. Lyubomirov (VS); Strandzha Mts: Marina Reka protected area, 5 Km NE Bulgari Vill., 160 m a.s.l., 25-28.06.2003, 1 ex.; Malashevska Planina Mt.: Manastir Gorna Breznithsa, 550 m a.s.l., 30-31.07.2002, yellow traps, 8 ex., leg. E. Migliaccio (EM); E Gorna Breznitsa Vill., 290 m a.s.l., 11.07.2002, 4 ex.; Gorna Breznitsa Vill., 790 m a.s.l., 31.07.2002, 1 ex., leg. T. Lyubomirov; Sandanski – Petrich Valley: Kresna Gorge, 24.05.1932, 1 ex., leg. K. Tuleschkov (VS); Sheitan Dere 5 Km N of Kresna, 250 m a.s.l., 01.08.2002, 2 ex.; Kresna Gorge: Peyo Yavorov Railway Station, 19-07.-09.08.2002, tree traps, 1 ex., leg. E. Migliaccio (EM); W Mikrevo Vill., 260 m a.s.l., 02.07.2002, 2 ex., leg. T. Lyubomirov (VS); South Black Sea Coast: Ropotamo protected area near Sozopol, 26.06.2003, 1 ex., leg. E. Migliaccio (EM); Sozopol, 29.06.2004, leg. W. Ziegler (Niehuis, p.c.).

***Acmaeoderella* (*Euacmaeoderella*) *subcyanea* (Reitter, 1890)**

Material: Thracian Plain: S Sinitovo, 42°07′32″N, 24°22′34″E, 301 m a.s.l., on *Alyssum murale*, 28.04.2020, 1 ex., leg. T. Ljubomirov.

Remarks: This is the second known locality of the species in Bulgaria as well as the second collected female specimen, after those in Ustina (Sakalian, 2003).

***Acmaeoderella* (*Liogastria*) *chrysanthemi* (Chevrolat, 1854)**

Material: Sandanski – Petrich Valley: Sveti Iliya Hill near Kalimantsi Vill., 450-510 m a.s.l., 22.06.-06.08.2002, soil traps, 2 ex., leg. M. Langourov (VS); Sveti Iliya Hill near Kalimantsi Vill., 450-510 m a.s.l., 22.06.-06.08.2002, soil traps, 1 ex., leg. D. Chobanov (EM).

Tribe Ptosimini Kerremans, 1902

***Ptosima undecimmaculata undecimmaculata* (Herbst, 1784)**

Material: Middle Danubian Plain: Pleven, Kailuka loc., 30.04.2000, 1 ex., leg. M. Langourov (VS); Osogovska Planina Mt.: Lisets Mt., 04.08.2004, 1 ex.; Malashevska Planina Mt.,530 m a.s.l., 24.04.2008, 1 ex., leg. D. Doychev (DD); Sandansko-Petrich Valley: 2 km S from Kamenitsa Vill., 170-240 m a.s.l., 05.04.-09.05.2002, tree traps, 1 ex., leg. M. Langourov (EM); Pirin Mts.: NE Lilyanovo, 41°38′54″N, 23°21′25″E, 1033 m a.s.l., 30.06.2016, 1 ex., leg. M. Naumova (VS); South Black Sea Coast: Sozopol, 01-08.07.2004, leg. W. Ziegler (Niehuis, p.c.).

In conclusion, it could be noted that the new data are helpful for better understanding the species distribution of subfamily Polycestinae in Bulgaria.

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